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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,179	06/07/2001	Etsuo Ogino	WATA:012	5855

7590 11/28/2003

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EXAMINER

NGUYEN, THANH T

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/876,179

Applicant(s)

OGINO ET AL.

Examiner

Thanh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Request for Continued Examination (RCE)

The request filed on 10/28/03 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/876,179 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al. (U.S. Patent No. 6,262,842) in view of Kamiya (U.S. Patent No. 6,317,179).

Ouderkirk et al. teaches a substrate for a reflection type liquid crystal display element comprising:

A transparent substrate, and a reflective mirror formed on top of the transparent substrate, wherein the reflective mirror (see figure 2b) comprises a predetermined number of high refractive index first transparent film composed of a first dielectric material (noted that, polymer films is made of dielectric material, see col. 4, lines 20-23) and low-refractive-index second

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transparent films composed of a second dielectric material (noted that, polymer films is made of dielectric material, see col. 4, lines 20-23) laminated alternately on the transparent substrate (see col. 4, lines 64-67), and wherein either or both of the first transparent films and the second transparent films are arranged such that a thickness thereof increases progressively or decreases progressively with distance from the transparent substrate (see col. 11, lines 1-14, as claimed in claim 2) to suppress occurrence of ripples in an optical reflection spectrum or optical transmission spectrum across a visible region (see figs. 5-6, col. 5, lines 30-33).

Regarding to claim 2, a substrate for a reflection type liquid crystal display element, wherein the first transparent films are arranged such that a film thickness thereof increases progressively or decreases progressively with distance from the transparent substrate (see col. 11, lines 1-14)

Regarding to claims 3-4, a substrate for a reflection type liquid crystal display element, wherein the predetermined number is in a range of 3 to 14. (See figures 2a-2b, col. 4, lines 1-15)

Regarding to claim 5, a substrate for a reflection type liquid crystal display element (see figure 2b, col. 5, lines 5-33)

However, Ouderkirk et al. does not teach the first refractive film TiO_2 which has the refractive index of at least 1.8 at a wavelength of 550nm the second refractive film SiO_2 which has the refractive index of less than 1.5 at the wavelength of 550nm (as claimed in claims 6-10).

Kamiya teaches a method of forming a transparent substrate (1) and a reflective mirror (10/20/30) on top of the transparent substrate, wherein the reflective mirror (10/20/30) comprises a high refractive index first transparent film (TiO_2) and low refractive index second transparent films (SiO_2).

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Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form the first refractive film TiO_2 which has the refractive index of at least 1.8 at a wavelength of 550nm the second refractive film SiO_2 which has the refractive index of less than 1.5 at the wavelength of 550nm in process or Ouderkirk et al. as taught by Kamiya because the process would provide highly accurate images and it is also known in the LCD processing art that determining the optimum material for the layer only involved routine skill in the art.

Response to Arguments

Applicant's arguments filed 10/28/03 have been fully considered but they are not persuasive.

Applicant contends that Ouderkirk does not teach multilayer optical films suppress ripples in an optical reflection spectrum or optical transmission spectrum across a visible region. In response to applicant that Ouderkirk teaches multilayer optical films (col. 4, lines 20-23) suppress occurrence of ripples in an optical reflection spectrum or optical transmission spectrum across a visible region (see figs. 5-6, col. 5, lines 30-33).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (703) 308-9439, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (703) 308-4940. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (See **MPEP 203.08**).



Thanh Nguyen
Patent Examiner
Patent Examining Group 2800

TTN